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From: Whitacre, Jan M CIV NAVSUP FLC Pearl Harbor
Sent: Tuesday, October 14, 2014 2:41 PM
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Subject: Red Hill Document Production - EPA/DOH Request 1.b. / Navy Questions # 6 and 7 - Dates and Estimates of Historical Releases - Tanks 6 and 7

Rebekah/Wade -

The attached documents construction, repairs and historical releases for Red Hill Tank #1. This summary report is provided primarily in response to EPA/DOH Request 1.b. and Navy Questions 6 and 7 for information regarding dates and estimated volumes of historical releases.

I note here that estimates regarding the volume of releases are estimates only and were based on information available at the time of the event. Some, and perhaps all, estimates may be inflated due to losses within the system through leaky valves or within the tell-tale system.

Although the attached is provided pursuant to and in the course of negotiations, the sender poses no restrictions on further distribution.

R,
JMW

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RED HILL TANK NO. 6 PRODUCT: F76

DATE REMARKS

7/23/52 Cleaned. Welded leak in collector ring. Labor Cost: $2310.80. Material: $675.10

6/63 Opened and cleaned tank to check for leaks. Cut collector ring and all telltale pipes. Pressurized tank at 1-1/2 lbs. pressure maximum.

10/17/63 Installed smoke tracer system at telltales.

11/18/63 2-1/2 lbs. air pressure test made on telltale pipes #3, #4, and #10 at 42' level. Welded fittings of subject telltale pipes were checked for leaks--okay. Air pressure test secured after 1 hour and 15 minutes. Black oil or JP-5 seems to be coming back into the tank from either the 18" line or the 32" line, causing coating of oil on surface of water. Decision made to drain tank down. A check was made on 32" line which runs in the lower tunnel up to Tank No. 6 to see if the blank needs to be reversed.

11/19/63 Resumed draining--from 0745 to 1725.

11/20/63 Five lengths of hoses were connected to the water hydrant

line to hose down the bottom of the tank to remove the black oil or JP-5. Resumed draining; secured.

11/21/63 Unplugged 6" drain on bottom of tank. There was 4" of water left at bottom. Tried clearing drain with 1-1/2" water hose. No results. J. Novit closed valve by sump pit, thin opened the valve on Tank #10 so that the water would go down, then up to tank #6 drain to release the sludge that is plugged in the 6" drain. Drain was unplugged. 18" line was flushed out. Drain line was closed so that tank could be filled with water.

11/22/63 Gas detector tests made by Pearl Harbor NSYD Safety Officer on tank. Also checked telltales 3, 4 and 10 from top of catwalk. Checked out okay. Made checks of tank bottom (around water level) and telltale of lower tunnel of tank. Recommended blower to be utilized during welding operations.

11/26/63 Safety Inspector checked out 40 foot water level for inspection. Okayed area for drilling holes in telltales but not for hot work. One hole each drilled on telltales 3, 4, and 10. Area rechecked by Safety Inspector. Gas test on telltales okay. Welded 3/4" nipples on telltales 3, 4, and 10 at 40 foot level for testing purposes.

11/27/63 Connected water hose and welding leads to telltale #10 to weld 3/4" nipple to 3/4" telltale line at bottom of 40 foot level. Welding completed. 7-1/2 lbs. air pressure test made for one hour on telltale #10 to check all areas around 10 ft. level. Rechecked telltale #10 an hour later. When opened, water and air came shooting out for about 10 minutes. Valve was closed. Temporarily secured. When 7-1/2 lbs. air pressure was applied to telltale #10 from inside at bottom of 40 foot level, the pressure did not indicate any reading at the telltale pipe which extends to the catwalk. Conclusion: 3/4" telltale is plugged in between. (Cleared on 12/2/63.) Switched over from telltale #10 to telltale #4. Air pressure of 8-1/2 lbs. was put into telltale #4 for about one hour. Telltale #4 in lower tunnel is clear and the air pressure coming out is at 7 lbs. All other telltales--no air. Telltale #4 air pressure at bottom is 8-1/2 lbs.; top of catwalk is 1-1/2 lbs. Shut off air pressure. 8 lbs. air pressure turned on into telltale #3 for one hour from 40 foot level. Telltale #3 at top of catwalk shows 3 lbs.

12/2/63 Safety Inspector okayed telltales 3, 4, and 10 at bottom

for hot work. Welded 3" nipple on telltale #3 at 43-1/2 foot level for testing purposes. 7-1/2 lbs. pressure on telltale #3 for 1/2 hour. Pressure okay after 10 minutes. Pressurized telltale #3 with 8 lbs. of air. There was 1-3/4 lbs. of pressure on telltale #3 showing from top of catwalk. With pressure on, telltale #3 checked around fittings and joints for leaks. Negative. 10 lbs. air put into telltale #4. From top of catwalk telltale #4 read 1-3/4 lbs. Checked telltale #4 at lower tunnel; line clear and okay. Fittings and joints around telltale #4 checked for leak--okay. 10 lbs. air pressure put in telltale #101 from bottom of 43-1/2 foot level. Air pressure at top of catwalk from telltale #10 is 6-1/4 lbs. Plugged at first, but 10 lbs. air pressure cleared it. Air pressure on telltale #10 at lower tunnel good, but 1/2 gallon of oil and water came out before it was cleared. Checked for leaks at 43-1/2 foot level. Negative.

12/3/63 Tank was filled from 43'-5" to 50'-7". Air pressure put into telltale #10 from top of catwalk to determine whether any water or oil left in back of walls or shell. Checked water level. All okay. Went down to bottom of 50'-7" level to drill 5/8" holes in telltales #3, 4 and 10. 3"

nipple welded over holes for testing purposes.

12/4/63 Air pressure test on telltale #10 for 1 hour (50-7" level). Telltale #10 is clear. Reading at bottom of 50'-7'" level is 10 lbs. and the reading at top of catwalk is 7 lbs.. Telltale at lower tunnel is clear (no water).

Checked around 50'-7" level for leaks on welds and joints, using liquid soap around all these areas. No leaks reported.

10 lbs. air pressure put into telltale #4.

Will be held for 40 minutes. At bottom of telltale #4, 10 lbs. air is being used, 3 lbs. at catwalk, and bottom of lower tunnel telltale #4 is clear (no water). Air pressure was turned on telltale #3. Air pressure reading at bottom of 50'-7" level was 10 lbs; air pressure reading at catwalk for telltale #3 was 4 lbs. Telltale #3 at lower tunnel is clear; however, when valve was opened, water and oil came out and filled one-half quart. Three manifolds made of black pipe (12' long with 3 nipples on each one) will be threaded on the nipple that extends out from telltale #3, 4 and 10 so that tests may be made without welding any nipples. This manifold is good up to the 60' level.

1/7/64 Started calibrating sounding equipment.

2/24/64 Started checking tank for leak. Tank appears to be

leaking at 85' level.

3/1/64 Cleaned tank.

4/13/64 Removed two manifolds at 60' level.

6/25/69 Manhole cover removed from tank. Vent closed.

1/20/70 Emptied and cleaned for conversion.

1/21-2/3/70 Cleaned tank. Washed down sludge from tank and also elevator (224 hours). Labor Cost: $732.48

2/2/72 Topped off with Navy Distillate. Converted to Navy Distillate. &sued and cleaned for conversion. Telemeter system installed.

7/8/74 Started transferring to Tank 16. Tank emptied.

7/22/74 Tank washed down for conversion to JP-5 from Navy Distillate. Blank installed on 32" line inside tank.

7/23/74 Welded flange to mainline. 32" line blanked inside of tank. Drain line slightly plugged. Tank buttoned. Manhole cover removed.

10/74 Tank converted from Navy Distillate to JP-5 storage.

4/78 Manhole cover removed.

4/11/78 Removed 6" valve on drain line.

4/12/78 Cleaned tank.

3/23/81 Tank removed from service and turned over to the contractor for initial repairs and lining.

1/15/82 Tank inspected and accepted. Started refilling tank for

leak test.

3/16/83 NSC Pearl formally accepted tank in a letter to ROICC Pearl.

8/15/88 Tank emptied in order to perform required maintenance and repairs on the 6" Drain Line Valve, and the Skin and Motor Operated Valves on the 16" and 32" pipeline.

Tank History for Tank 6, Red Hill

Date Remarks

Unless otherwise noted, all work in the following entries was done by AMAN Environmental Construction, Inc. and their subcontractors under DFSC M&R Project PRL93-17 (M1-93), Contract No. N62755-94-D-2802 entitled Clean Underground Fuel Storage Tanks, Red Hill Fuel Storage Facility. The project was administered by PWC Contracts Dept.

3/20/96 M. Lau and gaugers checked slop line skin valve (General Twin Seal) and found that it and 1-1/2-inch gate valve next to skin valve had small leaks that could not be stopped completely.

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Unless otherwise noted, all work in the following entries was done by Dames & Moore and their subcontractors under DESC M&R Project PRL96-21, Contract No. N62742-96-C-1356 entitled Emergency

Repairs to Red Hill Tanks. The contract was administered by ROICC Pearl Harbor.

Under DESC M&R Project PRL96-21, FISCPH Contract No. N00604-97-R-0013, FISC contracted with Mid Atlantic Environmental, Inc. to provide API-653 inspection services in support of the tank repair by Dames & Moore. Work was done by Thomas G. Kitchen, API-653 Certification No. 1891. Report submitted.

5/21-6/27/98 Inspect upper dome, cylinder, and lower dome.

7/6-8/98 Inspect tank bottom.

9/14/98 At 1210 J. Gammon (FISC SUPT) inspected horizontal section of 6" dia. slop line (former casing pipe for steam condensate return line) from the Lower Access Tunnel. Took photo. Line contained loose debris. NRL polyurethane coating system applied to inside of slop line under MILCON Project P-060 in the early 1980's has failed. Coating pieces taken to Fuel Lab for test. Refer to Lab Report Nos. 213 and 213 dated 9/14/98. Coating sample retained in Tank 6 file. Rust attached to bottom of coating samples indicates improper surface preparation. Extreme thickness (0.375") of coating sample indicates improper coating application.

12/23/98 P. Schubert (Thermal Engineering) inspected 6" dia. slop line (former casing pipe for steam condensate return line) and abandoned 8" dia. slop line with a video camera/crawler.

Found debris and thick coating in 6" line. Found an approx.

1" dia. pipe inside the 8" dia. line. M. Gladson (FISC PM)

has the videotape.

RH Tank 7 Product: DFM

5/22/52 Cleaned tank. Labor Cost: $1898.30. Material: $398.60

10/11/63 Calibrated gauge.

4/64 Completed cleaning tank. Tank inspected. No corrosion. Good shape.

3/18/71 Emptied and cleaned for conversion.

4/20-5/3/71 Cleaned tank for Navy Distillate conversion. Installed flat steel bars around elevator shaft and catwalk inside of tank (256 hours). Labor cost: $1,024.

5/4/71 Topped off with Navy Distillate.

6/22/73 Emptied and cleaned for conversion.

6/23/73 Emptied and cleaned by Asteroid group for installation of gauging equipment.

7/13/73 Removed and installed new 6" valve on drain line.

9/11/73 Telemeter system installed. Converted to DFM.

11/14/73 Telltale #1 collector ring started to leak. Alarm sounded in sump pit. Transferred Navy Distillate to Tank 10.

11/26/73 Started to clean tank. Drain line plugged. Welded collector ring.

12/73 Tank cleaned to repair leak #1 telltale (collector ring). Found corroded jumper pipe in collector ring. Bad section of jumper pipe removed and new section welded in. Tank buttoned up on 5 December 1973.

7/74 Telemeter out.

5/22/78 Tank experienced significant telltale leakage during weekend of 20-21 May 1978 requiring immediate transfer of DFM inventory to other tankage.

6/9/78 Tank emptied and washed for contractors.

6/9/78 Completed fuel removal for turnover to contractor for MILCON P-060.

10/24/78 Contractor began work. Removed motorized valves and installed blanks.

2/15/80 Contractor notified ROICC that tank is ready to be returned to service.

2/11/80 Final inspection of tank was held on this date. As there were some discrepancies that needed to be corrected by the contractor, the tank was not accepted. The tank was accepted on 29 February 1980 and filled. This is the first tank to be completed under MILCON P-060.

2/20/80 Began refilling tank for leak test.

LEAK TEST DATA

(Note: Leak rate is based on data from telemetering)

DATE	FILL LEVEL	LEAK RATE (GAL/DAY)
2/20-7/20/80	Various 171=235	Bad data due to leaking skin valve.
7/21-25/80	235.0	609
7/26-31/80	214.8	334
8/1-7/80	209.9	208
8/9-9/10/80	207.0	12.7
9/10-10/4/80	207.0	12.0
10/22-11/12/80	206.9	2.6
11/13/80-1/8/81	206.9	3.1

8/7/80 Tank fill level dropped to 207.0 feet. Leak subsided. Tank maximum fill capacity temporarily reduced by 31.3 Mbbls. to 265.4 Mbbls.

1/8/81 Stopped leak test. Began use as receiving tank.

4/9/81 Tank was removed from service for leak repairs under MCON P-060.

5/3/81 Tank was returned to service for leak testing following completion of leak repairs.

Tank History for Tank 7, Red Hill

Date Remarks

Unless otherwise noted, all work in the following entries was done by AMAN Environmental Construction, Inc. and their subcontractors under DFSC M&R Project PRL93-17 (M1-93), Contract No. N62755-94-D-2802 entitled Clean Underground Fuel Storage Tanks, Red Hill Fuel Storage Facility. The project was administered by PWC Contracts Dept.

6/30/95 W. Choy (PWC CME), M. Gladson (FISC PM), and J. Gammon (FISC SUPT) observed four spots of fuel back seepage on the Upper Dome that could be seen from the catwalk.

7/3/95 1. At 0800 W. Choy (PWC CME), N. Kawamoto (FISC LAB), and

M. Gladson (FISC PM) inspected tank walls for cleanliness.

Tank passed.

2. At 1000 Choy, R. Koyama (PWC CONREP), Gladson, and J. Gammon (FISC SUPT) inspected tank bottom for amount of IDQ work. Noted blisters on flat bottom plates and oil seepage from 4-inch pipe support on 18-inch pipeline.

3. At 1300 M. Carter (Pacific Testing - AMAN sub for gas-free testing) and Gammon inspected tank bottom. Took photos. Refer to memo of _____.

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Unless otherwise noted, all work in the following entries was done by Dames & Moore and their subcontractors under DESC M&R Project PRL96-21, Contract No. N62742-96-C-1356 entitled Emergency Repairs for Red Hill Tanks. The contract was administered by ROICC Pearl Harbor.

Under DESC M&R Project PRL96-21, FISCPH Contract No. N00604-97-R-0013, FISC contracted with Mid Atlantic Environmental, Inc. to provide API-653 inspection services in support of the tank repair by Dames & Moore. Work was done by Thomas G. Kitchen, API-653 Certification No. 1891. Report submitted.

3/25-4/9/98 Inspect upper dome, cylinder, and lower dome.

7/27/98 UT test tank bottom

7/28/98 UT test first course of ascending plates.

7/29/98 Vacuum box test first course of ascending plates.

7/30/98 Vacuum box test tank bottom and patch plates.

7/31/98 Test tank bottom for pitting.

8/6/98 Test first course of ascending plates for remaining flame sprayed aluminum.

8/11/98 Test tank bottom for chlorides.

8/13/98 From 1215 to 1300 J. Gammon (FISC SUPT) accompanied J. Fackrell (D&M CQC) and T. Kitchen (M-A TANK API-653 INSP) to tank bottom. "A" course sandblasted and wash primed. Flat bottom partially blasted. Sandblast grit and dust covered 95% of bottom. Kitchen tested blasted flat plate for remaining flame sprayed aluminum. Check for leak at 4" dia. pipe support on 16" dia. pipeline. Took photos.

9/8/98 1. From 1325 to 1450 J. Gammon (FISC SUPT) accompanied J. Fackrell (D&M CQC) and J. Frederick (ROICC CONREP) to tank bottom for final inspection. Found approx. ten holidays in coating on flat bottom plates from telemeter float around to sample line casing. Found loose bolts on stairway support brackets. Noted approx. 0.5" deep dent in bottom plate near tower leg closest to 18" dia. pipeline. Need to check plate at dent for underside cracks. Also need to check inside bottom of counterweight pipe for liquid, check telemeter

tape and float guidewires for bends and kinks, and reinstall temperature probes. Reattach counterweight pipe support bracket located approx 10' above the catwalk level.

2. From 1500 to 1530 J. Gammon and J. Fackrell inspected Tank 7 piping in Lower Access Tunnel. 18" dia. line had water on the bottom and could not be inspected. 8" dia. slop line was still being cleaned.

9/10/98 J. Gammon took sample of solid material (looked like broken grout) being cleaned out of the horizontal section 8" dia. slop line under the tank. Contractor used a high pressure water jetting nozzle to clean out the pipeline. Analysis by the Fuel Lab showed the material to be 88% solidified petroleum oxidation product and 11% rust. Refer to Lab Report No. 209 dated 9/10/98. Sample retained in Tank 7 file.

9/14/98 At 1220 J. Gammon inspected horizontal section of 8" dia. slop line from the Lower Access Tunnel. Took photo. Line was clean. NRL polyurethane coating system applied to inside of slop line in the early 1980's has failed.

4/2/99 S. Butler (FISC FUEL MAINT FMAN) climbed down the vertical ladder from the catwalk to the tank bottom to take three sandpaper samples and one scrape sample of bottom coating

top coat applied by Dames and Moore (D&M) under Contract N62742-96-C-1356. Also retrieved a sample of debris and extraneous material from the tank bottom and center tower that was not removed by D&M.